

PATHWAYS

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HANDS

(by Nirupama Bhatia)

It was a Saturday morning. The children were engaged in 'hand—printing', as part of a club activity. Soon the class-room was filled with the lively chatter of children fascinatedly comparing the sizes, shapes and lines marked out on their hand-prints, each of which carried the child's name on the palm. A few days later I overheard the children comparing their spans, their grip and the capacity of their cupped hands to hold water and mud. There was much excitement. This gave a beginning to my project on 'Hands'.

The interest they evinced encouraged me to continue with the project. Since there was a hundred percent participation in the hand-printing activity, motivation did not pose a problem. The project was initiated by asking them to collect pictures showing hands and they themselves brought poems. Some of the pictures led to a discussion on "What do we do with our hands?". The list of 'doing' words they came out with was amazingly long. The entire length of a classroom wall filled up with it. Here are some of them—draw, hold, throw, cook, sew, play, hide, pour, lift, dance, carry, wave, brush, write, paint, push, pull, point.

The pictures were mounted and labelled by the children themselves, which in turn led to more pictures and more words. One of the pictures had 'hands playing band'. The exciting discovery of the rhyming words 'hand' and 'hand' inspired Anisha and Pragya to compose poems of their own.

Hands, Hands, Hands,
Hands are useful for
Bands, Bands, Bands.
Hands are useful but
Not abuseful !
We eat with hands
We beat with hands, and
treat with hands.
That's why I like
Hands playing bands.

Anisha Kumar
II—B

My hands are useful small and beautiful.
I slap with my hands and I clap with my
hands.
Hands are bright and gay on a sunny day.
See my two hands
Oh, my lovely hands !

Pragya Parmita
II—B

(These are the two poems they learnt to recite with actions.)

हथेली से निकली चार उंगलियां ओ एक अंगूठा
बना मुलायम और गुदगुदा हम बच्चों का पंजा
दोनों पंजे मिले जोर से चट पर बज उठी ताली
लो स्कूल गये आकाश की ओर छा गयी खुशहाली !

Hands handling, dangling in water
making and shaking,
slapping and clapping,
hitting and fitting,
grabbing and rubbing,
taking and breaking,
helping and giving,
lifting, sifting sand,
hand holding hand,

The art-work and creative writing took a new turn since the theme was 'Hands'. There were riddles galore, crossword-puzzles, compositions, poems and songs involving finger-play. Another interesting part was shadow-play with hands and this was something that started during their day at school and ended at home at night-the entire family often joining in the fun. Given here are a few samples of their creative writing.

My hands are big. My hands have eight fingers and two thumbs. My hands work very well, so I put them in my lap to rest. God gave us hands to work not to waste. Take care of your Hands !!

Ashish Dholakia
II-B

I do many things with my hands. One day I went to the Zoo and threw food at the monkeys with my hands. So many people have no hands. I feel sorry for them.

Sumit Gupta
II-B

I love my hands. They are very useful. Sometimes I don't cut my nails and my teacher says "Cut your nails".

Rajesh Srivastava
II-B

Do you know what we do with our hands? We do many things. We dance, telephone, drive, wash, comb and make things. We plant with our hands.

Unmish Parthasarathi
II-B

(contd. on page 16)

USING PICTURES IN LANGUAGE TEACHING

This article is based on the experiences we had in running a session on 'Creative Writing' for teachers in a Delhi school. We had with us a series of slides showing surrealist paintings accompanied by suitable music (obtained from BBC Radiovision, U. K.) which was to be viewed by the participants. Many of them had already seen a film titled "Using Magazine Pictures in the Language Classroom" (Colour ; 27 min. available from the British Council Division, British High Commission, 26 Jor Bagh New Delhi—110 003). This stimulated us to look more closely at the pictures in the magazines normally available to us in India and to see what we could use in the programme.

One of the reasons for collecting pictures from Indian magazines was the difficulty practising teachers might face in locating a collection of slides, arranging for and selecting appropriate music and organising the projection of the slides in their own classrooms just when they were required. One way of overcoming these problems was found in the room where we worked—on the walls were framed prints of works by modern Indian artists. Other possibilities include: cutting up pictures from magazines and pasting them on charts to form collages. More than one such collage would be needed for use in a classroom as students in a large group cannot view one of them jointly. The collages could perhaps be different-leading to a variety in the work being done by the students. Would that not provide a welcome change from reading forty or fifty pieces written on the same theme?

Another way of making a series of abstract visuals is to elicit the help of the Art teacher. Using oil paints floating on the surface of water and lightly pressing a sheet of paper on to them; using combinations of different colours in thick poster paint on one half of a sheet of paper and then folding it over to obtain a 'reflection'; perhaps even a collection of different objects **dipped in colour** and used for printing or themselves **glued on to paper** to form a 3-D composi-

tion are some of the techniques that could be tried out. Obviously, these artistic efforts must be used to inspire students other than those who created them.

These slides, pictures and collages are intentionally left quite abstract in order to evoke varied reactions in the students. It also helps them to look at reality with a fresh viewpoint and often stimulates them to coin new words to describe what they see in vivid terms. The children should be encouraged to put down immediately their spontaneous reactions in whatever form they like—a few sentences, lines of verse or even disconnected phrases. These thoughts could then be developed further under the guidance of the teacher.

Abstract pictures, which have many nuances of meaning, are bound to give rise to a good deal of talk and discussion amongst the children. This should be encouraged and fully exploited by the teacher as it provides opportunities to practise verbal skills. As the project progresses the children, given freedom to express themselves, may work towards production of individual booklets of their work or towards the compilation of an anthology of the work of the whole group which will contain poems, stories, drama, descriptive passages or even scientific passages. Perhaps extra reading could also be suggested by the teacher after an initial survey of the Library.

Sets of pictures could also be used to illustrate ideas in grammar. An advertisement for a detergent showing the different sizes in which it is sold was cut out and arranged so as to show the meaning of 'small', 'bigger' and 'biggest'. This could permit children to practise dialogues like:

A: "My pocket of POINT is bigger than yours"

B: Yes, mine is smaller. Next time I will buy the biggest packet in the shop."

Children jumping up into the air (Nutrine Sweets) was used to show the comparison between 'high' and 'higher'.

A: "I think Arun can jump very high."

B: "I don't agree with you."

(contd. on page 19)

पर्यावरण अध्ययन तथा भाषा - शिक्षण

भाषा का जीवन से और जीवन का पर्यावरण से निकट सम्बन्ध है। पर्यावरण मानव जीवन को वैविध्य प्रदान करता है और जीवन की यह बहुरूपता भाषा के माध्यम से अभिव्यक्ति होती है। अतः पर्यावरण-अध्ययन वस्तुतः भाषा अध्ययन ही है, इसमें दो राय नहीं। परन्तु चूँकि आधुनिक शिक्षा-विदों ने भाषा को अलग से पाठ्यक्रम का एक विषय बना दिया है और गणित, विज्ञान, इतिहास, भूगोल आदि के शिक्षण को भाषा-शिक्षण से पृथक कर दिया है, अतः पर्यावरण द्वारा विभिन्न विषयों के शिक्षण की बात चल निकली है। वस्तुतः पर्यावरण-अध्ययन के अन्तर्गत ही भाषा सभी सभी विषयों का शिक्षण आ जाता है।

पर्यावरण है क्या? यह दृश्य जगत—धरती और समुद्र का जीव जगत, पदार्थ जगत, वनस्पति जगत और आकाश के ग्रह-गिण्ड तथा वायुमण्डल आदि ही तो पर्यावरण हैं। कुछ हमारी दृष्टि के सामने है, कुछ उससे परे। जो सामने है उसे हम देख सकते हैं और जो परे है उसके बारे में सुन और पढ़ कर उससे परिचित हो सकते हैं। इस पर्यावरण का-जो हमारे सामने है और जो हमारी दृष्टि से परे है—हमारे जीवन पर बड़ा प्रभाव पड़ता है। अतः इससे जितना निकट परिचय प्राप्त कर लिया जाए उतना ही हमारे लिए लाभदायक है। इससे परिचय प्राप्त करने के लिए अर्थपूर्ण अवलोकन की तथा सूक्ष्म निरीक्षण की आवश्यकता है। इसके बिना हम पर्यावरण को केवल देख भर सकते हैं, उससे परिचित नहीं हो सकते, उसमें तादात्म्य स्थापित नहीं कर सकते और तादात्म्य के बिना व्यक्ति और प्रकृति एक दूसरे से असंपृक्त, अछूते रह जाते हैं, जैसा कि प्रकृति के साधनों के दोहान के फलस्वरूप विकासशील देशों में हो रहा है। फलस्वरूप विकासशील देश के किसी महानगर का बच्चा धीरे-धीरे प्रकृति दर्शन के आनन्द से वंचित होता जा रहा है। उसके जीवन की सहजता नष्ट हो रही है। उसे एक प्रकार की कृत्रिमता ने घेर लिया है।

परन्तु, भारत में अभी यह स्थिति नहीं आई है।

महानगरीय बालक अवश्य प्रकृति से दूर होता जा रहा है। उसे आटे का तो पता है पर यह किससे प्राप्त होता है, कैसे प्राप्त होता है, इस बात का ज्ञान कम बालकों को है। और आटे-आटे में क्या अन्तर है—यानी यह गेहूँ का आटा है अथवा चने का, अथवा ज्वार, बाजरे-मक्का का या कूटू-गिण्डा का—इसका पता न बालकों को है न अभिभावकों को और न ही अधिकांश शिक्षकों को। इसी विडम्बना ने पर्यावरण के अध्ययन की आवश्यकता को बल दिया है।

पर्यावरण अध्ययन वस्तुतः शिक्षा संबंधी एक थैरेपी—इलाज है, जिसमें अर्थपूर्ण अवलोकन पर बल देना नितान्त आवश्यक है। यह अर्थपूर्ण अवलोकन ही शिक्षा की जान है। इसी से बालक का भाषा-ज्ञान विकसित होता है और विकसित भाषा-ज्ञान से उसका जीवन भी विकसित होगा, इसमें संदेह की गुन्जाइश नहीं।

अर्थपूर्ण अवलोकन से भाषा-ज्ञान कैसे विकसित हो सकता है? आइए, इस प्रश्न का उत्तर खोजें। इस संबंध में सबसे पहले विचारणीय है कि भाषा क्या है? भाषा वस्तुतः नाम है—पदार्थों का नाम। भाषा गुण भी है—पदार्थों की प्रकृति। भाषा क्रिया भी है—जीवन-गत नाना व्यवहारों—व्यापारों की कर्म में परिणति। भाषा अनुभूति भी है, यानी आत्मा की आवाज। भाषा जगत है—सम्पूर्ण जगत और जगत भाषामय है; जीवन भी भाषामय है। अतः बालक जितनी निकटता से, जितनी ललक से और बारीकी से आसपास बिखरे दृश्य जगत का अवलोकन करेगा, उतना ही अधिक उसका भाषा ज्ञान विकसित होगा। यही नहीं, विकसित भाषा ज्ञान के माध्यम से वह दृश्य जगत के अधिक से अधिक निकट आयेगा जो उसके लिए बहुत आवश्यक है।

एक उदाहरण लें। मान लीजिए बालक खेल-ही खेल में इधर उधर पड़ी चीजों को इकट्ठा कर रहा है जिसमें एक कांच की गोली है, एक कौड़ी है, एक सिगरेट की सफेद पन्नी है, एक कैम्पा कोला की बोतल का ढक्कन है। अमुमन बालक ऐसी ही चीजों

को इकट्ठा कर जेब में भर लेते हैं। क्यों करते हैं ऐसा वे ? निःसंदेह इन पदार्थों का रूप-रंग उन्हें आकर्षित करता है। आपके लिए ये व्यर्थ हैं पर उनके लिए बहुमूल्य, अब इन्हीं के माध्यम से आप उन्हें भाषा सिखा सकते हैं, यथा—

नाम

—यह क्या है ?

यह गोली-कंचा है, यह ढिबरी है, यह पीतल पन्नी है, यह कांच है, यह माचिस की डिब्बी है आदि उत्तरों से वह विभेदीकरण सीख रहा है, ध्वनियों का उच्चारण सीख रहा है, और उसकी पहचान पक्की हो रही है।

रूप-रंग

—अमुक वस्तु कैसी है?

यह गोल है। यह चौरस है, यह पतली है। यह मोटी है। यह हल्की है। यह भारी है। यह उससे हल्की या भारी है। यह सफेद है, यह चिकनी है, यह पीली है, यह खुरदरी है, यह मंहगी है, यह सस्ती है आदि। इस प्रकार के उत्तरों से वह वस्तुओं के गुण से परिचय प्राप्त करता है। पदार्थों के गुण-दोष का ज्ञान उसके जीवन में बहुत उपयोगी सिद्ध हो सकता है। इससे वह एक पदार्थ की दूसरे से तुलना करना सीखता है और तुलना के विभिन्न आयातों—आकृति, भार, रंग-मूल्य आदि से भी परिचित हो जाता है। वह विभिन्न वस्तुओं के विभिन्न गुणों में विपरीतता खोज सकता है। इससे उसे वस्तुओं की संकल्पना का ज्ञान होता है।

उपयोग

कौन सी वस्तु किस काम आती है, यह जान लेना बालक के लिए बहुत आवश्यक है। अतः प्रत्येक वस्तु की उपयोगिता के सम्बन्ध में उससे प्रश्न किये जा सकते हैं तथा उसे बताया भी जा सकता है। इससे वह वस्तुओं के क्रिया-व्यापार से भी परिचित होगा।

विभिन्न वस्तुओं के माध्यम से बालक के शब्द भण्डार तथा वाक्य-ज्ञान को विकसित किया जा सकता है। उदाहरण के लिए, एक कंधा, एक फूल

और एक कलम लेकर बालक से मालूम करें कि अमुक वस्तु क्या है और किस काम आती है। अथवा, वह कौन सी चीज है जिसे हम सूँघते हैं ? जिसकी माला बनाते हैं ? जिसे बालों में लगाते हैं ? अथवा वह कौन सी चीज है जिसके नाम के शुरू में 'क' की आवाज आती है ? आखिर में 'ल' की आवाज आती है ? अथवा, कंधा किसका बनता है ? कहां मिलता है ? कितने पैसों में मिलता है ? इसमें एक और बारीक दांत होते हैं और दूसरी ओर छिदरे, ऐसा क्यों है ? अथवा, फूलों को कौन उगाता है ? कौन से मौसम में फूल अधिक मिलते हैं और क्यों ? फूलों के नाम बताओ, आदि।

पर्यावरण अध्ययन के लिए बालकों को कुछ क्रिया-कलापों में व्यस्त रखना आवश्यक है। बालकों को टोलियों में बांट दें। एक टोली से कहें कि तुम लोग तरह-तरह के पत्ते इकट्ठे करो। दूसरी से कहें कि तुम लोग चिड़ियों को देखो। तीसरी से कहें कि तुम खेतों का चक्कर लगाकर देखो कि कौन क्या कर रहा है। फलस्वरूप बालक पत्तियाँ इकट्ठी करते हैं। उनका वर्गीकरण करते हैं। उनके पेड़ों के बारे में मालूम करते हैं। आकृति के लिहाज से उनमें विभेदीकरण करते हैं। सामान आकृति के लिहाज से सामान्यीकरण करते हैं, तुलना करते हैं। ये सारी क्रियाएं बालक के भाषा-ज्ञान को पुष्ट करती हैं। इसी प्रकार अन्य प्रस्तावित क्रियाकलापों से भी बालक का भाषा-ज्ञान पुष्ट होगा।

आइए, कक्षा एक के बालकों को सब्जी मण्डी ले चलें, अथवा, यदि यह सम्भव नहीं है तो उनसे सब्जियों और फलों के नाम निकलवाएं। फलों में आप उनसे अनार, अमरूद, सेब, आम, केला, संतरा नाशपाती, आड़ू, लीची, जामुन आदि और सब्जियों में गाजर, मूली, आलू, पालक, मेथी, धनिया, टमाटर, मटर, फली, अदरक, मिरच आदि नाम निकलवा सकते हैं। आप इनके माध्यम से प्रत्येक नाम की शुरू की और आखिर की ध्वनियां सिखा सकते हैं। निर्दिष्ट संकेत देकर किसी फल या सब्जी का नाम पूछ सकते हैं, जैसे वह फल बताओ जो गोल-गोल व काला होता है तथा आमतौर से बरसात के दिनों में मिलता है, उसके शुरू में 'जा' की आवाज आती है।

(शेष २१ पेज पर)

WIT - SHARPENERS

LOST AND FOUND

In the following tale, a number of the words have been replaced by groups of digits, each digit representing a different letter. The problem is, to re-write the tale, putting back the letters in place of the digits.

'1343 and Tom were not yet officially engaged, so she wore 624 4789 on a 56378 around her neck. On Tuesday morning, when the woman came around to tidy up, she found the girl distressed; the 4789 was lost and nothing would 56224 624. Instead of 1789789, 17961 were the order of the day-until the woman found it lying on a 56374 8234 the sitting-room window, after a lot of 123456789.'

THE FOUR PRIZES

For the end-of-the-year examinations for twelfth grade, there were four prizes, based on the final examination marks for English, Hindi, History and Mathematics. Marks from 0 to 100 were given for each examination. There were no fractional marks, and no ties for the prizes which were won by Arun, Bhaskar, Chary and Deena. We are told :

1. the highest mark in any one of the examinations was obtained by Deena.
2. Bhaskar and Chary got the same marks in Hindi.
3. Arun got a lower mark in English than Chary.
4. the winning marks in the Hindi and Mathematics examinations were the same.
5. Chary had one less point in English than Deena had in History.
6. Deena did hopelessly poorly in the English examination.

Who won each prize ?

QUITE ABSURD

A surd is an irrational root such as $\sqrt{3}$. Can you evaluate the following simple surd involving a recurring decimal, that is, a decimal which repeats one or more digits indefinitely ?

$$\frac{1}{\sqrt{.1}}$$

where. $.1$ is short for. $.1111$ recurring.

(Answers on page 10)

At Christmas, an upper class of a private school for boys in New York City presents a Shakespearean play such as Hamlet, Macbeth or Romeo and Juliet. Once before this annual event was to take place, the third-standard teacher decided to prepare her class for it. "Does anyone know who Shakespeare is ?" She asked. One child raised his hand : "Sure—he's the fellow that writes the eighth—standard play every year."

—from the Reader's Digest, December 1978

What is the True Function of a Teacher ?

He was a teacher with little pay and a large family, but he was interested in education.

"What is the function of a teacher ?" he asked. "Is he merely a giver of information, a transmitter of knowledge ?"

"He has to be at least that. It is part of the function of a teacher to impart knowledge to the student so that he may have a job when the time comes, and may also, perhaps, help to bring about a better social structure."

"That is so, sir, but aren't we trying to find out what is the function of a teacher ? Is it merely to prepare the student for a successful career ? Has the teacher no greater and wider significance ?"

"Of course he has. For one thing, he can be an example. By the way of his life, by his conduct, attitude and outlook, he can influence and inspire the student."

"Is it the function of the teacher to be an example to the student ? Are there not already enough examples, heroes, leaders, without adding another to the long list ? Is example the way of education ? Is it not the function of education to help the student to be free, to be creative ? Is it not the function of a teacher to help the student to understand what he is ?"

"But the teacher must guide the student towards a better and nobler life."

"To guide, you must know ; but do you ? What do you know ? Is it not the function of a

teacher to dispel the gratifying illusion of guides, examples and leaders ?"

"Then at least the teacher can inspire the student to greater things."

"Again are you not approaching the problem wrongly, sir ? If you, as a teacher infuse thought and feeling into the student, are you not making him psychologically dependent on you ?"

"But if the teacher is not to be either an inspirer, an example, or a guide, then what in heaven's name is his true function ?"

"To be a 'helper'. Cease to act upon the student ; then he becomes important in himself, which means that you have to understand him and not demand that he should understand you or your ideals which are phony anyway. Then deal with what is and not with what should be."

Regard the student as a unique individual and you shall thus help the student to face intelligently, without fear, the complex process of living and not add more problems to the already existing mess."

"Are you not asking the teacher a task that is far beyond him ?"

"If you are incapable of this, then why be a teacher ?"

Your question has meaning only if teaching is a mere career to you, a job like any other, for I feel that nothing is impossible for the true educator."

The road not taken

Two roads diverged in a wood; and I took the one less travelled by. And that has made all the difference."

—Robert Frost

Ideas For Teaching History

One of the greatest assets of the History teacher is the infinite variety of subject matter that he can draw upon to get his or her charges thinking, feeling and creating. While there is of course always some place for 'chalk and talk' at any age, the frequent and often exclusive use of the 'essay' can make History a thorough bore. Yet, if learning history is a bore, then it is difficult to see any justification for teaching it!

Facts are tools, not ornaments, valuable in use rather than for their own sake. If the accent can be shifted so that the young learner experiences education as largely a matter of discovery and of expressing his findings in ways that appeal to him, he may cease to accept or reject on principle or by habit and acquire a questioning and reasonable maturity.

The essential role of the teacher is that of being a skilled mediator between the child and the past, the person who arouses his interest in the first place and who can then maintain and extend it by providing tools and procedures which will enable the child to investigate with a sufficiently clear idea of what he is looking for, and to recognise it when he has found it.

Variety is one of the most useful and important weapons in a teacher's armoury. A good idea used to excess becomes a bad idea. In using various approaches the History teacher needs not only to 'know' history, but even more important to have a feel of what in history works with children, to know how a child's potential of thinking, feeling and creating can best be made actual, to know what is reasonable to require of children in the way of historical accuracy and perception in literacy, thoughtfulness and even elegance of the finished product. To quote Einstein: "Imagination is more important than knowledge."

Perhaps the most straightforward way of getting children to use their imagination on the

past is through some form of 'eyewitness report'. Most children have probably been asked to imagine that they travelled with Fa-Hien from China to India, or were present at famous battles and other historical events. There are many possible extensions of the basic idea.

One such is to set the child to personify the character involved in a situation of high emotional tension. He is to see events through his eyes and to express his fragmentary, disjointed thoughts and feelings in an informal, unedited form using exclamations, question marks, asterisks, dots, dashes, stars or any other signs he may care to devise to suggest emotions. Some examples of this type could be:

Fear: Soldiers in Tippu Sultan's defeated army taking refuge in Srirangapatnam.

Despair: Clive at Madras; a victim of the Great Plague; a girl child mine-worker.

Anger: Shivaji, ranked as a petty chieftain, made to stand with lower class nobles in Aurangzeb's court.

Excitement: The arrival of King George and Queen Mary for the Grand Durbar as viewed by one of the nobles present.

Panic: An English prisoner in the Black Hole of Calcutta.

Pity: Ashoka (watching) at the scene of the Battle of Kalinga; an English soldier watching Joan of Arc at the stake.

In this sort of work the more illustrations the better. To help the children along it might be possible to have available a stock of simple, duplicated outlines of characters of different periods omitting details of face and dress. It should, however, be made plain at the outset that art in this context is to serve history and not the other way around. Children need not labour for hours over elaborate pictures with all details slavishly copied from resource-books.

The idea of the 'flashback' gives many children an exciting device to experiment with. Just how would one have felt on June 8th, 1857, when supporting Sikh troops were awaited at Delhi and British troops on the outer ridge of Delhi were waiting for reinforcements in order to attack Delhi. To what pleasant memories of safe garrison duty might one's mind have flickered back and to what immediate grim future might it win its way forward? Having asked oneself such questions one can then, by putting the same questions to the children, get them to reflect a little on their feelings:

The 'dual-image' approach might also be tried. Two outlines of a character might be worked out; the first as he might have appeared to his enemies—bad features exaggerated and good features reduced; the second as he might have appeared to his friends. Sometimes a third one to show how he appeared in his own eye might be tried out. This approach can in some cases be made multiple and has the advantage of spreading history from time to time into other fields like biology, psychology, architecture, engineering and drawing and also of making the children work in co-operation with each other.

The dual and multiple image approaches give children some conception of the complexity of events and the varied perspectives in which they are viewed. For older classes, especially, any current wrangle can serve as a starting point—the Arab-Israeli conflict, some domestic political argument, a debate on ecological issues, sports or fashions. The teacher can ask a group to bring in headlines and articles on a particular dispute cut out of newspapers, magazines or other publications or verbal resumes of radio/TV news reports. These are almost certainly bound to show how opinions differ on present day affairs and there can follow some discussions of the reasons for such apparently contradictory opinions about even the facts.

Having prepared the ground in this way children can see the logic of transferring this clash to earlier times and can be brought to realise that

historical issues were similarly debated by men of good and bad will, and that whom one sided with depended not so much upon one's degree of righteousness as upon things as upbringing, self-interest, misinformation and most important of all upon the general frame of reference of contemporary society. Once one has established the analogy between our own and past arguments, it is possible to get children to apply what may be called the 'dual assessment' approach, some examples of which are suggested here.

A 16th century Roman Catholic and a Protestant talking about Luther.

A noble and a peasant on some stage of the French Revolution.

A German and a Briton on the outbreak of War 1914 or 1939).

It could also be used in situations where the actions of the character influence the other's thoughts: Nur Jahan facing the dhobhi woman whose husband had been killed.

It can be used with great effect in episodes involving duplicity or treachery: Hitler and Chamberlain at Munich; Clive and Mir Jaffar before Plassey; Lenin and the member of the German General Staff who sponsored his return to Russia in 1917; Shivaji and Afzal-Khan.

Farewells and introductions offer other possibilities for getting children to appreciate how people can be thinking very different thoughts unknown to each other: Sir Thomas Roe in Jehangir's court.

The production of 'historical documents' shares with writing of eyewitness reports and the like, the advantage of giving children the opportunity of imagining themselves in the role of a historical figure. Having them write diary entries or letters as if they were people living in the past can lead to interesting work both from the point of the writer and of the reader, provided the ground is well prepared. This preparation, sometimes taxing for the teacher, could involve accu-

Using A Suggestion Box in A School

By : Mrs. Jaya Singh, Counsellor,
Guru Harkrishan Public School, New Delhi

Most of the time, adults like to keep the responsibility of decision-making to themselves and feel that children should wait till they become adults to be entrusted with responsibility. Yet, the more they are involved at an early age, the more responsible it makes them.

Normally, students regard the entire responsibility of running a school and making its rules and regulations as the work of the principal, supervisors and teachers. There is a dichotomous division in a school. Sensing this feeling and trying to eliminate this dichotomy the idea of a Suggestion Box for the students was introduced in Guru Harkrishan Public School, New Delhi.

It was started as an experiment to see how it would be welcomed by the students, who were now being given an opportunity for direct participation in the working and improvement of the school. Children were discouraged from writing anonymous letters, so that they could build up courage in accepting the responsibility for any criticism they may make.

As the principal started reading the letters in the Morning Assembly and giving on the spot decisions on some of them and considering others, the idea caught on like wild fire. The beginning with about two letters was like a warming-up process. Soon over fifty letters started pouring in daily. The students realized that this worked as a direct link with the principal,

without taking up too much individual time. They realized that positive steps were being taken in improving the deficiencies that they were bringing to the notice of the authorities and simultaneously, they were publicly being given credit for it, as each name was announced. Children got a thrill out of having their names called out.

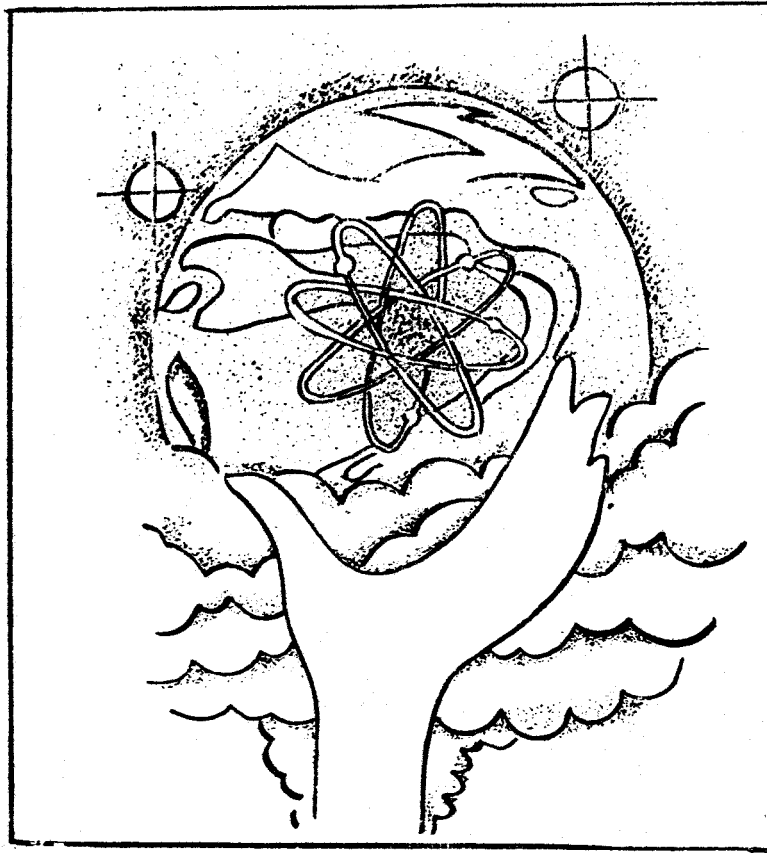
Above all it is hoped that this idea will encourage the habit of writing among the youngsters. Children develop personalities through writing, they reveal clues to deep emotional problems, when they release their thoughts and feelings accumulated over a long time. Just putting into words or communicating one's thoughts and feelings in itself minimises one's tensions and resentment. It builds a better observation of one's surroundings. A child learns to reason, interpret and examine whether his demands are justified or not. He is in a better position to be appreciative of the facilities already provided to him.

The sympathetic and understanding view by the Principal when reading the letters is helping many children to write, who would not otherwise dare to express themselves. Every child feels he is an individual and is contributing something valued by the authorities. Sometimes an honest statement may come as a shock or appear in poor taste to us, but the children are very frank and say what they feel.

"If you can, give him something better
If you can, get hold of a man where
He stands and give him a push upwards,
Do so, but do not destroy what he is."

—Vivekananda

CREATIVE WRITING



My Experiment with Students of Class XI

I took the above picture (the original was a coloured one from a magazine) and told the class to express spontaneously whatever reactions they felt on seeing it. Given time to think about it, they wrote down their views in any form they felt like. Some asked a few questions now and then—but what is given on these pages forms the students' own thoughts. Different children have reacted in different ways. Some were purely analytical and have written only on the scientific aspects they saw; others felt that the picture had a spiritual significance; yet another wrote about how emotional it made him. One student, who is not known for his academic brilliance, came out with a clear-cut, all-round viewpoint; it even inspired another into becoming a budding poet.

R. Kalyani Rao
Springdales School,
Pusa Road, New Delhi.

THINGS FALL APART, THE CENTRE CANNOT HOLD

In the game of knowledge, power and things, man has staked and lost his spirit. What is left behind is empty, devoid of all those finer qualities, those hard tendencies which have enabled him to survive so far.

Today the earth is surrounded by a dark, ugly cloud of hatred and misery. The foundations or the roots on which this edifice had been built, this world created, have withered. Now it is sinking in the unfathomable ocean of lust and

greed. The 'pralay' of the Vedas or the 'Great Flood' of the Bible is not far away now. The collapse is inevitable and man knows it, but in his vain attempt to exist, to survive, he tries to lift the earth from its ugliness. But nay, the earth, the societies and the people have reached their saturation point. There is no looking back. It is too late now !

—Aseema

THE WORLD IS IN MY HAND

It was heard the 'World is in my pocket.' But this time it is 'The World is in my hand'. It has generated many viewpoints as viewed by different people. A millionaire who acquired a lot of wealth, which he got without much exertion, or, in simple words—black money—thinks that the world is in his hand. With the money he has, he can buy anything in the world—even man's blood.

Thinking from a dacoit's point of view, he says that the world is in his hand. Any opposition to his words, and he knows the man is no more in society.

Talking about politics, a politician is justified in a way that he knows about his power. He can stop the government from functioning. He has the power to veto thoughts and ideas.

A scientist thinks in a different manner. He has his brain to capture the world with the help of his inventions. He can destroy the world any moment or he can think in a different way. He has invented such fast and comfortable means of transport that he has made the world so small and the isolated people can come together.

A person can never forget himself. So finally I would like to give my own viewpoint about 'The world, which I say, is surely in my hand'. I am one of the members of the world's family. I believe that each member in the family has a role to play and I, being a member of the world family too, have also a role to play. I have some work to do which another person cannot do. So truly I believe that the world is in my hand.

—Vipin Rai

MAN AND THE ATOM

From time immemorial man has utilised the energy of the sun directly or indirectly. Everything and everybody is made up of atoms. Man now has discovered this atom and is utilising it for his own needs. He has now found a new source of energy from these indestructible atoms—Atomic energy. But every coin has two faces ; atomic energy is useful for man, but he has also made the powerful atomic bomb (which if exploded could cause havoc, immense destruction and misery).

Atomic energy is a good replacement for the continually depleting sources of coal and petroleum. Atomic energy has been used for peaceful purposes and has yielded fantastic results. Uranium—a naturally occurring radioactive element—is used in nuclear reactors along with thorium, plutonium and graphite. When heat is slowly released from nuclear reactors it is utilised for producing work.

In the modern world men use more and more power. We need to have much larger supplies of energy than we have now, and the answer to this energy crisis is nuclear power. By taming this atomic and nuclear power, we can make it a better world for everyone.

Ajay Makkar

Seeing that pale white hand holding aloft that delicate ball of transparent blue, was a reminder to me of all that has symbolised our age—the dominance of man over the universe and its accompanying grotesque manifestations. The purple background gave it a depressing touch and the scarlet clouds did not soften the mood, rather they accentuated it.

Man has learnt to know. The hand grasping the ball symbolised man holding knowledge in the palm of his hand, and yet he has never been able to understand that knowledge is not certainty, that to know is to learn, that there is so much you don't know. To understand the shallowness of your knowledge is to put knowledge to its highest use. Newton was not being modest when he

talked of being a child playing on a beach. He was talking of this very fact - that the sea of knowledge is unfathomable. It is this thing that has ruined human civilisation, driven men to lunatic deeds—the absolute belief that you, and only you are right. If only you learn to understand that there can be two points of view, that knowledge is not absolute, you will learn the bliss of camaraderie. It is this inflexible attitude that leads to dissent and hate and violence and war. Oh why can't man learn to agree to disagree? Oh why can't man learn that we need not be always right and others are not always wrong? It is this refusal to comprehend that brings man to the brink of disaster today, through that atom in the centre of the sphere of knowledge. Will we, or won't we learn to realise that we may be mistaken? Stop just feeling with our hands when we grope at knowledge and open our eyes? I don't know, I don't think so. For mankind will never learn to accept Oliver Cromwell's exhortation "I beseech you, in the name of Christ, to accept that you may be mistaken."

Mahinder Singh

THE PICTURE

I am shown a picture and told to reflect on what it conveys to me. It is a painting, a hand holding a sphere and within it the artist's symbol of the atom. Perhaps the artist has symbolised a world and an atom within it or is it a world within the atom?

It is no doubt a work of modern art, that which inspires not only the painter but the on-looker to imagine, to conceive a concept rather than a definite form. It is like splitting or taking apart the components that make up this world and putting them together in a new more conveying form. And in this, Art and Science cease to be two separate entities as most people think of them, they merge into one. Both Art and Science, as put by Jacob Bronowski in his book 'The Ascent of Man' tear the world apart to understand it and rebuild a more understandable picture of it.

The ease with which the artist has trapped the atom in a hand is perhaps not comparable to the problems that are faced by the scientist in harnessing the atom. Their labours have been enormous, results obtained not always encouraging, but they have moved on and on with dogged persistence, which is the second nature of men involved in some such Herculean labour for the good of their fellow beings.

The energy crisis is the inevitable fact, just another one like death, that has come and looms over mankind which has grown so dependent on energy, dependence on it dating to the day that Adam lit a fire. It is my belief that the panacea to the energy crisis lies not in large solar panels, but in the tiny, yet intricate, world of the atom.

For years scientists have struggled to tame the atom. They have succeeded partially but they have yet to overcome the hazards that have come as thorns do with roses.

But the day of judgment shall come; all mankind awaits it; their sins shall be washed. It will be the dawn of Nuclear Energy.

Dheerendra Prasad

It floated in the sky,
like a little ball,
I thought it was something,
But it was nothing at all.
It seemed to be true
but it was my imagination,
for in believing it,
I had some hesitation.
Hesitation, because it seemed so queer
But I would have liked it to remember forever
So strange was it,
It roused my temptation
And gave new heights to my Imagination.

Rajeev Bharadwaj

Tests are Fun !

'Arithmetic Progression' in Mathematics is not a difficult topic, but when I taught it to students of my Class X I found that their interest level was at its lowest. I was not at all satisfied. There was no involvement and no feedback from the students. I usually give a test after completion of a topic, but this time I hesitated since I found them less co-operative. I was forced to change my traditional method.

A little brainwave made all the difference ! I asked the girls to set the question papers during their Library periods using all the material they could find there. Questions from their own text books were not to be used. The duration of the test and its format were discussed and agreed upon before they started their work.

The class is divided into four groups or 'houses' and the papers set by one 'house' were given to another. The way in which the papers were to be distributed was not revealed to them, eliminating the chances of their finding out the questions before the test. An adequate number of copies of each test was made by the group that set it and handed in to me.

To my surprise, I found all the four question papers rather tough, challenging and more or less of the same standard. Some of the questions were better than what I might have found myself.

The whole class responded and what is more did well in the test. Afterwards I asked them for an evaluation of the idea and reproduced below are some of their comments.

"We practised a lot more questions this time, especially of the types we set."

"We never knew that there were so many books in Mathematics in the Library."

"We don't usually use the Library and the Library period for Mathematics."

"It was fun selecting questions."

"Now we know the difficulties of question setting."

"We really enjoyed it and would like to do it again."

The girls developed an intrinsic interest in the topic and enjoyed solving more problems than usual, especially as getting good marks was not the main aim of the exercise. The ability to co-operate with each other and work in groups was important outcome of my little experiment.

Mrs. Monie George

YOUR ATTENTION PLEASE

PATHWAYS is issued four times a year in February, April, August and November. Do write and tell us about your new ideas, innovations tried out in your classroom; share your problems and experiences. Contributions should reach Mrs Gayatri Moorthy at the address given below not later than the 20th of the preceding Month.

The Annual Subscription for PATHWAYS is Rs. 5/- Please pay your subscriptions for 1980 to the contact teachers in your own schools to be passed on to us, or send a money order to us.

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(contd. from page 2)

मैं हाथ में मेहंदी और नाखूनों में नेलपॉलिश लगाती हूँ। हम हाथ से पंखा और लाईट जलाते हैं और किसी को पकड़ते हैं। हाथ में रेखाएं होती हैं।

नमीता II B

A Riddle

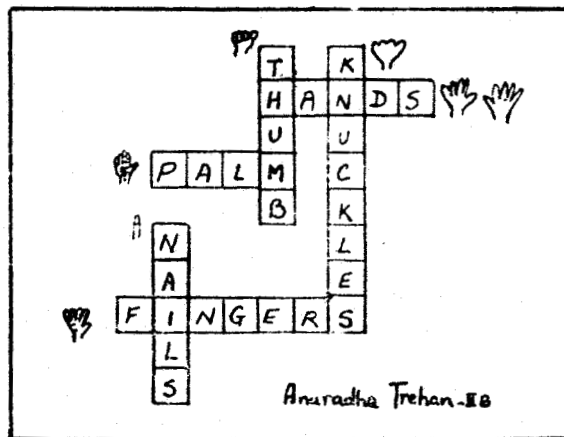
What is like a tree top, has no leaves or fruit, but has only sticks ?

(Ans : A hand)

Mandakini Dubey
II-B

मुझे मेरे हाथ बहुत अच्छा लगता है। मेरे हाथ में चार अंगुली और एक अंगूठा है। जब मैं नेल पॉलिश लगाती हूँ तो मुझे आन्टी डाँटती है और कहती है कि कल से तुम्हें नेल पॉलिश नहीं लगानी है। कई लोग ऐसे होते हैं जिनके हाथ नहीं होते। वे भीख मांगते फिरते हैं और हाथ पर कुछ भी नहीं लगा सकते। वह सड़कों पर बैठकर एक डिब्बे में पैसे माँगते हैं। हमें उनकी मदद करनी चाहिए।

ऋतु II B



The mention of synthetic varnish and the age-old herb, 'mehndi', as a means of decorating hands led to a discussion on the usefulness of plants and the 'skill' involved applying mehndi. The children were taken around the school garden which has a number of mehndi hedges.

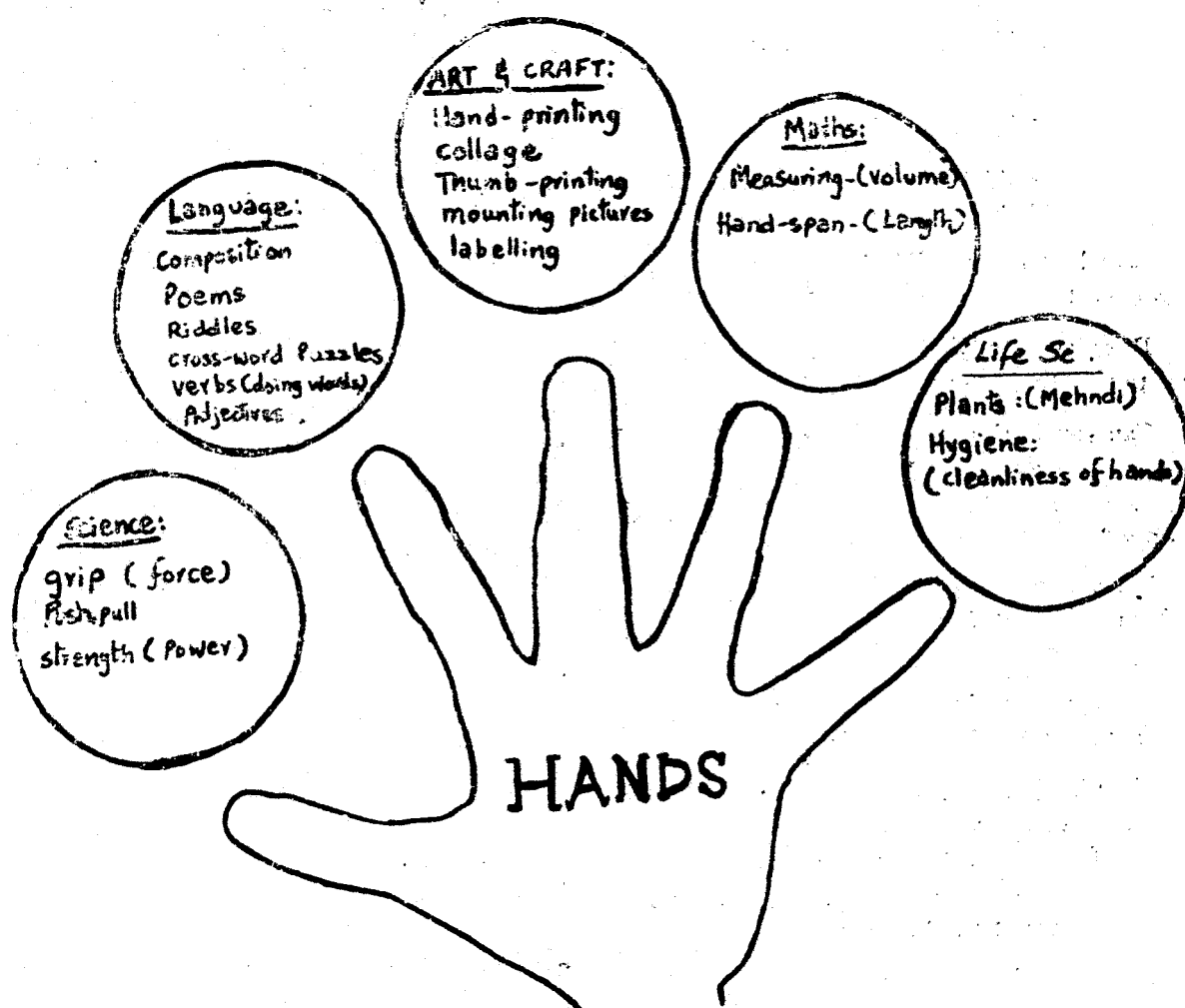
What the children had been taking for granted so far, that is the functions the hands performed took a new turn as they started unconsciously seeking appropriate words to describe the acts of and the different parts of the hand. The new fascination with words enhanced their vocabulary in range and depth - grip, squeeze, palm, knuckles, fist

Playtime and recess meant a further extension of the project when they started spanning the teacher's table, their heights, the window sill with their hands, thereby learning that 'hands' are also a unit of measurement.

Since a few children had mentioned 'cripples' we talked about the reasons they did not have hands—amputation, disease and as part of punishment meted out to thieves in olden days. For ten minutes the class acted as if they had no hands. Later they described how they felt while play-acting. Some cried, some felt very sad and empathy for those suffering was aroused. Children were filled with wonder when they were told about artificial limbs replacing lost ones.

We summed up the discussion on a rather positive note :—

- (a) not to take one's good health and having an intact body for granted.
- (b) should anything ever go wrong, never to despair, but to have faith in the human brain's resourcefulness—For example feet and the mouth have been used for work like painting, cycling. An exhibition of X'mas cards painted by feet and mouth was held (X'mas was just over) which cheered the children up.



(Nirupama Bhatia teaches in Sardar Patel Vidyalaya, New Delhi. As a hobby she paints and draws. Two of her books, 'Sets' and 'Words' have been published by Thompson Press in 1979.)

The Children's Playground As A Centre of Interest

What starting points for inquiry can urban children find in the swings and climbing frames on the playground in or near their school? The tubular steel structures firmly embedded in the ground are equipment that children will use readily in giving themselves many different experiences.

BEGINNING WITH A SLIDE

Children in the playground can think of many questions that might be answered by having some slides.

Did you have to push to start yourself sliding?

How long does one 'go' take?

Does an average of three 'goes' give a better time? Time the same child. (Use a stopclock)

How long is the slide? Only measure the sloping part.

Does everybody take the same amount of time to travel this distance?

Can you work out your own speed in metres per second now that you know the length of the slope and the number of seconds you take coming down it?

Is there any speeding up or slowing down during the journey?

How could a faster slide be made?

Do the ways in which you sit or lie while sliding make any difference to the speed?

What happens when you try to slide down sitting on mats made of different materials? Try the coir footmat, bathmats made of Turkish towelling, mats of rubber (from a car), mats made of foam, a piece of an old carpet.

Which travels down the slide faster, a child or a ball such as a large rubber ball? (Throwball/football - to be borrowed from the Games Room)

Watch the ball carefully as it travels. What happens to it that does not happen to you?

These experiences can give the child plenty to think about and back in school investigations could continue with the help of models. A slide is after all only a slope with a smooth surface.

SLOPES :

It could be interesting to find out what happens when slopes are altered and different things allowed to slide down them.

Many things can be used for the next investigations. Children should not be hurried, they should be encouraged to use as many ideas as possible.

What are the things that can be used as slopes? Curtain railing, semi-circular iron pipes used as gutters to allow rain-water to drain off from roofs, strips of hardboard or wood, a length of timber with one surface planed smooth or even with a groove gouged out along its length, string or nylon washing lines stretched taut. Moving things will tend to fall over the sides of planks so some restraining arrangement will be needed. Blocks of wood, boxes or clamps fixed to retort stands can be used for supporting these things in a sloping position.

Some of these materials may prove to be springy as objects travel along them. This gives children opportunities to make additional interesting observations. If this springy movement of the slope is not required it will need additional support underneath in order to make it rigid; or else the line will have to be pulled more tightly. Planks of wood should also be checked for warping.

What objects could be sent down the slopes? Small tins and boxes of different materials, some made heavier than others by filling with sand. Balls-rubber, ping pong; glass marbles, ball bearings. Small toys with and without wheels. Objects with

(contd. on page 24)

(contd. from page 3)

A : "Don't you ?"

B : "No, I don't. Ravi can jump much higher."

Get the children to develop sentence patterns using other adverbs of comparison.

Sets of pictures could be used to cue substitution items and give the children practise in a dialogue of the following type.

I			
He	am	happy	
She	is	amused	
We	are	excited	because
They		thrilled	
		overjoyed	

A set of pictures showing people with different facial expressions, singly and in groups, performing various activities was used. Some of them were :

a team of victorious football players hoisting up their trophy after a match

a village girl holding a bunch of wheat and a sickle in her hand

a lady savouring a mug of coffee (Nescafe)

a young man reading a letter with great pleasure (Agfa)

a father and his young daughter playing on a lawn (Agfa)

a fashionable young woman showing off her sunglasses (Cherry Blossom).

Though most of these were in black and white, when cut up in different ways and mounted on a chart with the above table written in the middle, they looked quite effective.

A number of such dialogues could be planned by the teacher to help the students not only practise spoken language but also to ensure correct understanding and usage of words. This makes 'drilling'—a necessary part of most language teaching—much more interesting. Some sample dialogues are given below—Perhaps you might like to look for suitable pictures which will

give students ideas for modifying the 'actions' performed by the speakers.

A : "What are you doing this evening ?"

B : "I'm going to read a book." (play chess, tennis, work in the garden)

A : "Why not come to the cinema instead ?"

B : "I haven't the time for that"
(energy, patience)

A : "What does Kumar plan to do tonight ?"

B : "He's going to play cards."
(practise music, do some carpentry)

A : Does he play cards every night ?"

B : Yes, he does." (No, he doesn't)

Pictures of a grocery shop showing the shop-keeper, some customers and shelves containing a wide range of goods can be used to practise 'some' and 'few', money items, forms of request, 'please' and 'thank you'.

Use advertisements for jobs for role-playing interview situations, especially with senior classes. Working in small groups of three or four and using different advertisements, students can play the parts of the manager/interviewer(s) and the applicant.

Pictures can also be used to make story writing more creative. One idea that was tried out was to sort out a collection of pictures and paste them on four different charts. The first one was a collection of characters—people, animals and birds; the second showed various locations—sea-side, mountains, the interior of a house, a market; the third a number of objects—a key, a torch, a crate, revolvers, a car, a watch, an umbrella, a walking stick, a half-empty glass. The last chart had on it a number of captions culled from different magazines and modified to make them catchy. Some examples : Letter from Hong Kong; The Empty Rice Basket; Death in the Sky; The Way to Talk to your Children; The Big Fight; Caught you at Last!; A Place in the Sun; Rules of the Game; A Friend in Deed; The Moment of Crisis; Travellers' Tales; Coolie to King; The Day the Bubble Burst.

Students are required to choose characters from the first group, place them in locations chosen from the second, use the objects to move the story along and the captions as titles, opening or closing lines.

The teachers at the school used yet another method for a picture story intended for primary levels. The theme they chose was 'A Picnic'. The pictures were sorted into three groups showing the planning for the picnic, what actually happened at the picnic (games, eating...lots of fun!) and reactions after the picnic. Wherever possible sentences and phrases were written below the pictures to help the children along.

Simple comic strips with the dialogue in the bubbles wiped out could be reproduced by stencilling and given to children to create their own stories.

As your collection of pictures grows you may find it useful to paste them on half-size sheets of chart paper and write down at the back of each what you would use it for. Another good idea is to sort them into different categories—people, places, things.....you may then use them in any situation to meet your needs. In this way you

could build up a collection for use throughout the year and not have to go looking at the last minute. Before the kabadiwalla visits you this month get busy with your scissors! Use your imagination; break up or combine pictures; change captions. Store your charts flat on any convenient shelf or better still in a drawer. If neither is possible, make them of a size that will fit comfortably into a large cardboard box—the type in which gentlemen's suits are packed.

One very encouraging aspect of the one afternoon programme that we ran was the active participation of not only teachers who taught English, but also those who taught Hindi, Bengali and Tamil!

A last thought that we would like to share with you. What about using funny pictures or cartoons and asking students to write captions for them? Write about the situation depicted therein? Would you like to try your hand at the ones given below?



(Our thanks to Mr. Basu of St. Xavier's School for reproducing these two drawings for us)

Meera Govil and Gayatri Moorthy

(शेष भाग ५ का)

अथवा, एक सव्जी होती है जो जाड़ों में मिलती है। उसके नाम में दो अक्षर हैं। आखिर में 'ली' आता है। उसका रंग सफेद होता है। वह लम्बी होती है। जाहिर है कि इस क्रिया में बालक सुनकर समझ रहे हैं, वह आपके वर्णन में और निदिष्ट वस्तु में सह संबंध स्थापित कर रहे हैं। वे अनुमान भी लगा रहे हैं और एक निश्चय पर भी पहुंच रहे हैं। ये सब भाषा-ज्ञान में सहायक अर्थबोध की कुशलताएं हैं। इस क्रिया के उपरान्त आप उनको भाषा की वर्णमाला से—वर्ण ध्वनियों से भली-भाँति परिचित करा सकते हैं अथवा यदि आपने ध्वनियां सिखा दी हैं तो उन्हें पक्का करा सकते हैं।

इस विषय में एक व्यक्तिगत उदाहरण देना चाहूंगा। मॉरीशस की एक पाठशाला की पांचवीं कक्षा में कुछ ऐसे छात्र मिले जिन्हें वर्णमाला का कतई ज्ञान न था। उन्हें मन्द बुद्धि की संज्ञा देकर पिछली पंक्ति में बिठा दिया जाता रहा था तथा वे क्लास-दर-क्लास पिछले बालकों में शुमार होते रहते थे। भोजपुरी भाषी होने के कारण वे हिन्दी बखूबी बोल और समझ लेते थे। मैंने उनमें आत्म-विश्वास जगाने के लिए कहा—देखो भाई, हम भारत से आए हैं। हमें पता नहीं है कि यहाँ बाज़ार में क्या-क्या सब्जी मिलती है। आप हमें कुछ सब्जियों के नाम बताओ। एक ने उत्साहित होकर कहा—बाज़ार में आलू है, परवल है, कटहल है, अदरक है, धनिया है, मटर है, फली है, मलंगम है, कुकंबर (खीरा) है, सलादपत्ता है, मुसूर है, पंगमाई है, तमारिन है—वह बताता गया, मैं श्यामपट्ट पर लिखता गया। लिखकर मैंने एक-एक नाम पढ़ दिया फिर प्रत्येक नाम की प्रारम्भिक ध्वनि निकलवा कर उनके लिखित रूप को अलग से लिखता गया। मेरी प्रसन्नता का ठिकाना न रहा जबकि उन्होंने मुझे प्रत्येक ढंग से अ, आ, क, म, फ, प, स, त को पहचान कर बता दिया। चार दिन के प्रयत्न से ही उन बालकों को वर्णमाला का परिपक्व ज्ञान हो गया। शेष बालकों को भी इस क्रिया से लाभ हुआ। सबसे अधिक संतोषजनक बात तो यह थी कि बालकों ने खेल-खेल में ही यह सब कुछ सीख लिया।

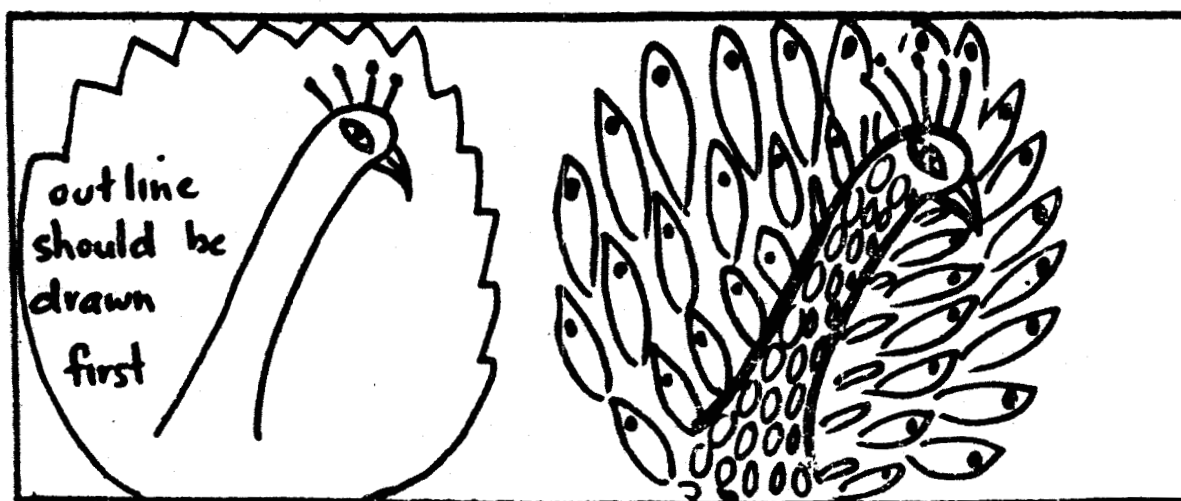
यह तो भाषा में प्रारम्भिक ज्ञान की बात रही। किसी भी क्रिया-कलाप के माध्यम से आप बालकों की अभिव्यक्ति को मुखर कर सकते हैं। उदाहरण के लिए कहें कि रविवार के दिन किसी पार्क में जाकर ध्यान से देखो कि वहाँ क्या होता है। अथवा, अपने ग्वाले से मालूम करो कि उसके पास कितने गायें, भैंसे हैं तथा दूध के कारोबार में उसे क्या नफा-नुकसान होता है। अथवा, अपने नये पड़ोसी से मुलाकात करके मालूम करो कि वे लोग कहां से आये, उनके कितने बच्चे हैं, वे कहां क्या काम करते हैं तथा उन्हें किसी बात की आवश्यकता तो नहीं। मेरी दृढ़ मान्यता है कि घिसे पिटे निबन्धों को लिखवाने के स्थान पर बालकों को ऐसे क्रिया-कलाप सुझाए जाएं जो उनके जीवन से प्रत्यक्षतः संबंधित हो तथा जिनका अपने शब्दों में वर्णन कर सकना उनके लिए सुगम हो।

पर्यावरण अध्ययन के लिए जो क्रिया-कलाप आप सुझाएं, प्रत्येक के माध्यम से भाषा-शिक्षण सम्भव है। सम्भव ही नहीं, ऐसा शिक्षण चिरस्थायी भी होगा, सार्थक होगा। इसका कारण यह है कि क्रिया-कलापों में पदार्थ, उनके गुण, उनका उपयोग तथा उनसे संबंधित कार्य-व्यापार सम्मिलित हैं। अतः वार्तालाप द्वारा मौखिक अथवा लिखित भाषा का विकास बहुत ही स्वाभाविक और सहज तरीके से किया जा सकता है परन्तु इसका यह अर्थ नहीं कि इससे पाठ्यपुस्तक अथवा अभ्यास पुस्तिका की आवश्यकता नहीं रह जाती है। पाठ्यसाधन तो आवश्यक है ही, इस प्रयास से तो पाठ्य सामग्री द्वारा प्रदत्त ज्ञान संपुष्ट और संबंधित होता है। वस्तुतः यह पद्धति औपचारिक शिक्षण की पूरक है और इस दृष्टि से पर्यावरण अध्ययन किसी विषय विशेष का शिक्षण न हाकर विभिन्न विषयों के शिक्षण का एक तकनीक अथवा प्रविधि सिद्ध हो जाता है और भाषा शिक्षण में भी यह प्रविधि बहुत कारगर सिद्ध हो सकती है, इसमें कोई संदेह नहीं।

Shri G. D. Sharma
Consultant
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IDEAS FOR ART AND CRAFT

A PEACOCK



Things you need.

1. Some Champa leaves of different sizes.
2. White Poster paint.
3. Black chart paper.
4. Some thick paint brushes.
5. Newspaper.
6. Small plastic containers. Ice-cream cups could be used.

The 7 to 8 year olds experienced a lot of enjoyment while making this beautiful peacock. This chart was done by a large group. Once you have been able to make one chart then the teacher could draw out some more ideas from the children and two or three groups could be organised into tackling some more charts. This kind of group work gives even the not so artistic child a chance and boosts his or her confidence in art.

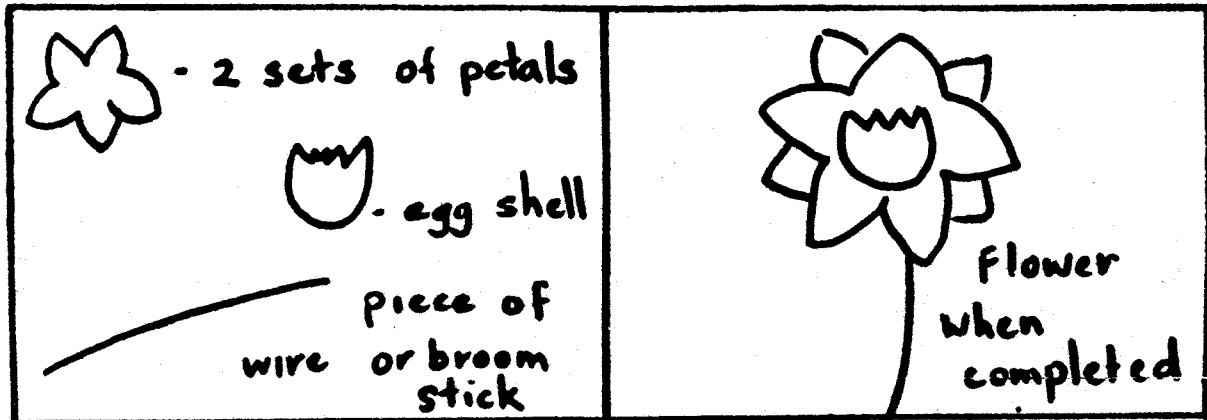
Step 1. The first thing the teacher will have to do is to draw the outline of the peacock as I have shown in the illustration.

Step 2. Place large sheets of newspaper under the chart as children must be taught not to stain the table or floor where they are working.

Step 3. A sufficient amount of white poster paint should be placed in the plastic container. A little water could be added to make a thick liquid.

Step 4. Apply this thick paint to the back of a Champa leaf and starting at the edge of the neck of the peacock press the back of the leaf onto the paper. Each child has a chance of applying the paint and stamping it on the paper. The larger leaves could be left for the outer edge. For the neck we used smaller round leaves e.g. the Kachnar leaf. The head and the eye were outlined with thick white paint. The finished product looked very effective.

DAFFODILS



Spring is around the corner as winter will soon be over, so it's a good time to start collecting the materials we will need.

1. Yellow and green crepe paper.
2. Egg shells which should be washed and dried.
3. Wire or long broom sticks.
4. A bit of plasticine.
5. Wax crayons.
6. Glue.

Using a cardpaper model, trace out two sets of petals on yellow crepe paper as shown in the diagram. Next let each child carefully colour the eggshells using the crayons, first yellow and then shading in some orange and red.

Apply some glue upto a quarter way up from the bottom of the egg shell and stick one set of the petals firmly onto it. The child could hold it in the cup of her palm for a few minutes so that it sticks well.

Next apply some glue in the centre of the other set of petals and stick them to the other set of petals that have already been fixed. Do not allow the petals to overlap exactly. Allow to dry.

Cover the piece of wire or broom-stick with green crepe paper. Stick at both ends so that the paper does not come off. When this is completed a tiny hole should be made with any sharp instrument at the bottom of the shell and the paper petals. Pass the wire or broom-stick through this opening and secure the tip with a tiny ball of plasticine to prevent it from slipping out.

Scraps of fine stiff cloth or kite paper could also be used for the petals. The flowers look very natural when arranged in a vase with some real leaves.

Mrs. Urmilla Sharma

(contd. from page 18)

both flat and curved surfaces such as cylindrical powder tins, corks, pencils. Pebbles (round, flat, oval), irregularly shaped pieces of stones.

Children will need time to observe what happens and they should be encouraged to repeat their observations to check whether particular movements happen every time. Slopes and objects can be changed around. They should find it possible to sort objects according to their behaviour on the slopes.

Rolling things : Glass marble, rubber balls, wheels of a car, round pebble. **Sliding things:** match box, flat pebble, brick, bead (on a nylon line) **things which could slide and roll:** Toilet roll, pencil, oval pebble **Things with mixed-up movements:** Bottle stoppers.

Children may then like to investigate and compare sliding and rolling things.

Which things go down the slope most rapidly? Take an average of three 'goes' for each object.

Does the object's mass make any difference to its speed when it is a slider? When it is a roller?

Does the object's shape make any difference to its speed when it is a slider? When it is a roller?

What happens to sliders and rollers at the end of the slope?

What can you discover about the distances some things roll when they come off the slope? A long corridor with a smooth floor is a good place for trying this.

Does the steepness of the slope make any difference to the distance of rolling?

Does the type of floor a thing rolls over make any difference to the distance it rolls? Place different surfaces at the foot of the slope and test with the same rolling object.

You will notice that rollers begin to move as soon as they are put on most slopes. Can you find any slope that does not set a roller moving?

What sort of slopes do sliders need before beginning to move?

Does the mass of the slider make any difference to the type of slope it needs for its movement to begin?

Would readers like to write and discuss the skills and scientific concepts, which might be introduced by experiments of this type?

[From: Using the Environment—Investigations Part 2. A unit for teachers in the 'Science 5/13' series. Available at the Teachers' Centres and the British Council Library, Delhi.]

A man with a son in college was asked what career the young man planned. "I think," said the father, "from the letters he sends me, he's going to be a professional fund-raiser."

* * *

One father used to sing his children to sleep until he overheard his three-year-old son offer this advice to his two-year-old sister: "If you pretend you're asleep, he stops."

* * *

After the kindergarten teacher struggled to get a pair of overshoes on her pupil, the little one said: "They don't fit too well' cause they're not mine." With much more struggling the weary teacher got them off. Then the child added: They're my sister's, but my mother lets me wear them."